

22. The product in accordance with claim 21, wherein the metal of the metal cathode target is selected from titanium, zirconium, tantalum, hafnium, niobium, vanadium and mixtures thereof.

23. The product in accordance with claim 22, wherein the metal of the metal cathode target is selected from titanium and zirconium.

24. The product in accordance with claim 23, wherein the metal of the metal cathode target is titanium.

25. The product in accordance with claim 21, wherein the metal film has a thickness ranging from 100 Å to 1500Å.

26. The product in accordance with claim 5, wherein the metal film has a thickness ~~ranging from 200 Å to 700Å.~~

27. The product in accordance with claim 21, wherein the reactive gas is selected from oxygen, nitrogen and mixtures thereof.

28. The product in accordance with claim 27, wherein the reactive gas is oxygen.

29. The product in accordance with claim 27, wherein the inert gas is argon.

30. The product in accordance with claim 21, wherein the inert gas is argon.

31. The product in accordance with claim 30, wherein the reactive gas is oxygen.

32. The product in accordance with claim 31, wherein the substrate is glass, the metal in the metal film is titanium.

33. The product in accordance with claim 31, wherein the atmosphere comprises argon and up to 30 percent oxygen.

34. The product in accordance with claim 33, wherein the atmosphere comprises 2 to 15 percent oxygen.

35. The product in accordance with claim 21, wherein the substrate is glass.

36. The product in accordance with claim 21, wherein the metal film is thermally oxidized.

37. The product in accordance with claim 36, wherein the metal film is heated to at least 400°C.

38. The product in accordance with claim 36, further comprising a metal oxide film deposited on the metal film prior to thermal oxidation of the metal film.

39. The product in accordance with claim 38, wherein the metal oxide film has a thickness ranging from 40 Å to 120Å.  
*glB  
B2  
A  
W1B4  
B*

40. The product in accordance with claim 38, wherein the substrate is glass, the metal in each film is titanium, the density of the metal oxide film is 4 grams per cubic centimeter and the refractive index of the metal oxide film is 2.5

41. The product in accordance with claim 38, wherein the metal in each film is independently selected from titanium, zirconium, tantalum, hafnium, niobium, vanadium and mixtures thereof.

42. The product in accordance with claim 41, wherein the metal in each film is independently selected from titanium and zirconium.

A2  
43. A coated article comprising a glass substrate, a first titanium oxide film formed by thermally oxidizing an amorphous sputtered titanium metal film deposited from a titanium metal cathode target in an atmosphere comprising argon and oxygen below a reactive switch point of the titanium metal cathode target, and a second titanium oxide film deposited over the first titanium oxide film.--

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